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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------|------------------|
| 09/684,528 | 10/06/2000 | Andrew K. Percy | X-444-2P-2 US | 1500 |
| 24309 | 7590 | 11/16/2004 | EXAMINER AHN, SAM K | |
| XILINX, INC ATTN: LEGAL DEPARTMENT 2100 LOGIC DR SAN JOSE, CA 95124 | | | ART UNIT 2637 | |

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 09/684,528 | Applicant(s) PERCEY ET AL. | |
| | Examiner Sam K. Ahn | Art Unit 2637 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment, received on 08/02/04.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8,9,17,18,20 and 21 is/are rejected.
- 7) ☒ Claim(s) 1-4,6,7,10-16 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/20/04 has been entered.

Response to Arguments

2. Applicant's arguments, see p.7-9, filed 08/02/04, with respect to the rejection(s) of claim(s) 8,9 and 17-20 under 102(e) and claim 21 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Moon.

Claim Objections

3. Claims 1-4,6,7 and 9-21 are objected to because of the following informalities:
In claim 1, line 2, delete "clock" and insert "clock signal".
In claim 1, lines 8,12 and 17, delete "set of delay" and insert "set of the plurality of selectable delay".

In claim 2, lines 3 and 8, delete "set of delay" and insert "set of the plurality of selectable delay".

In claim 2, line 14, delete "a repeating" and insert "the repeating".

In claim 6, line 2, delete "the delay" and insert "the plurality of selectable delay".

In claim 7, line 2, delete "clock" and insert "clock signal".

In claim 7, lines 9,13 and 19, delete "set of delay" and insert "set of the plurality of selectable delay".

In claim 7, line 10, delete "of delay trim units".

In claim 7, line 10, delete "provide a" and insert "provide the".

In claim 7, line 16, delete "signal;" and insert "signal; and".

In claim 7, line 23, delete "of clock" and insert "of the varying clock".

In claim 9, line 2, delete "the step" and insert "a step".

In claims 10,14 and 16, lines 3, respectively, delete "the pattern...the pattern" and insert "the pre-determined pattern...the pre-determined pattern".

In claims 11,12,13 and 15, lines 1, respectively, delete "the pattern" and insert "the pre-determined pattern".

In claim 17, lines 1 and 3, delete "the clock" and insert "the generated clock".

In claim 19, line 2, delete "clock that" and insert "clock signal that".

In claim 19, lines 8,11 and 16, delete "enabling delay" and insert "enabling the plurality of selectable delay".

In claim 19, lines 13 and 18, delete "a regular" and insert "the regular".

In claim 20, line 8, delete "the delay trim units of" and insert "the plurality of selectable delay trim units in".

In claim 21, line 2, delete "a generated" and insert "the generated".

Claims 3,4 and 18 directly or indirectly depend on claim 1 or 9.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 8,9,17,18,20 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Moon et al. USP 6,600,771 B1 (Moon).

Regarding claims 8 and 20, Moon teaches (in Fig.7) a method for spreading the electromagnetic emissions for a generated clock signal that is created in response to a reference clock signal (CLK), comprising the steps of providing a delay line (510) in the path of the reference clock signal, adjusting trim units in the delay line in a predetermined pattern (from 508 using PN sequence) during consecutive clock cycles. (note col.5, line 3-37)

Regarding claim 9, Moon teaches all subject matter claimed, as applied to claim 8. Moon further step of providing an offset (Vctrl2) in the reference clock signal (CLK) prior to the step of adjusting.

Regarding claims 17 and 21, Moon teaches all subject matter claimed, as applied to claim 8 or 20. Moon further teaches wherein the generated clock signal exhibits different frequencies during successive cycles, the energy of the clock signal being spread equally over the different frequencies (see 404 in Fig.4A and note col.2, lines 1-4 and col.3, lines 30-49 with late to early transition creating clock signal at different frequencies).

Regarding claim 18, Moon teaches all subject matter claimed, as applied to claim 9. Moon further teaches wherein the offset is selected to minimize the worst-case skew introduced between the reference signal and the generated clock signal (note col.5, lines 25-37 wherein Vctrl2 corresponds to T/2 delay difference).

Allowable Subject Matter

5. Claims 1-4,6,7 and 19 would be allowable if rewritten or amended to overcome the claim objections set forth in this Office action.
6. Claims 10-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2637

7. The following is a statement of reasons for the indication of allowable subject matter:

Applicants disclose a method for spreading the electromagnetic emissions of a generated clock comprising a spread generator generating a predetermined pattern, a clock generator, an adder and plurality of delay elements. The predetermined pattern and output of the clock generator are combined, which is used as an input to the delay elements. The output of the delay elements are used as a newly generated clock signal wherein the newly generated clock signal has different clock periods in its respective clock cycle in a repeating pattern. Closest prior art, Moon, teach all subject matter claimed. However, Moon does not explicitly teach having different sets of plurality of selectable delay trim units. Moon further does not teach wherein the step of providing trim unit adjustments of consecutive clock cycles comprises predetermined patterns as recited.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jeong et al. Teach controllable delay lines in generating spread spectrum clock signal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

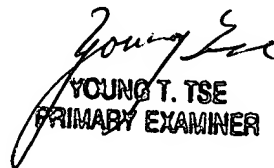
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax

Art Unit: 2637

phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam K. Ahn
11/8/04


YOUNG T. TSE
PRIMARY EXAMINER